



**Canadian Transport
Commission
Research
Branch**

**Commission canadienne
des transports
Direction
de la recherche**

**Prairie Branch Line Rationalization
Cause and Effect**

Prairie Branch Line Rationalization

Cause and Effect

by

Dennis Ward

First Printing, November 1986

Canadian Transport Commission
15 Eddy St., 15th floor, Ottawa-Hull K1A 0N9

©Crown Copyrights reserved, 1986
(Canadian Transport Commission)
Quotations and partial reproduction
permitted with full acknowledgement
of source.



Commission canadienne
des transports

Canadian Transport
Commission

Preface

The Research Branch of the CTC maintains a work program on the handling and transportation of Prairie grain. This program essentially involves the analysis of the grain marketing system by its major transportation and handling sub-components -- a) rail transport, b) truck transport, c) elevator handling, and d) vessel transport -- with a view to understanding the cost structures of each and how they are inter-related. The ultimate goal of this program is to integrate these components into a system model which would permit the evaluation of alternative grain transport scenarios.

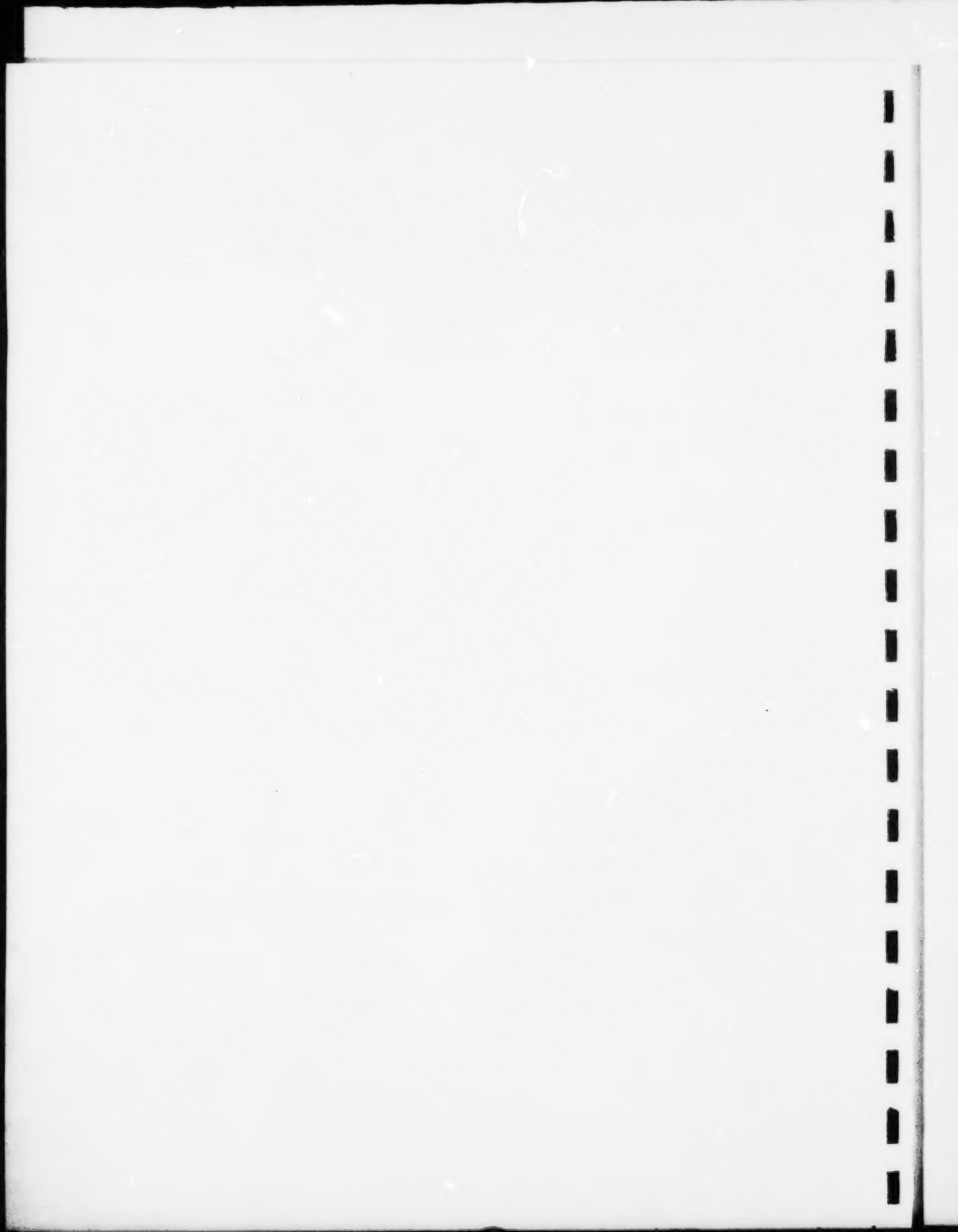
In preparing the Research Branch report Potential Cost Savings from Grain Dependent Branch Line Rationalization, the author spent some time framing the rationalization debate in its historical context as well as defining the national and international scopes of grain production and marketing and the working of the railway costing order for subsidy purposes. This work was felt to be sufficiently important to warrant the separate cover in which it is here presented.

Of course, the expressed opinions are those of the author, Dennis Ward, and do not necessarily reflect the views of the Canadian Transport Commission. Comments would be welcomed by the author, Andy Gemmell or Joseph Kruger, at 819-997-6541 or by myself at 997-6025.

R.W. Lake
Executive Director
Research Branch

Contents

	Page
1: The Political Economy of the Regulation of Grain Transportation -An Historical Perspective	1
2: Canadian Grain in the International and Domestic Marketplace	7
3: Railway Costing for Subsidy Purposes	16
Appendix: International Grain Trade	19



Chapter 1: The Political Economy of the Regulation of Grain
Transportation - An Historical Perspective

The regulation of transportation for purposes of economic development and, indeed, nation-building has played a central role in the economic development of Canada for most of our history. It has become a cliché to phrase Canadian economic history in terms of the development of a transportation infrastructure which linked the country from sea-to-sea. Yet, transportation policy has been employed quite explicitly in the past to achieve national goals which might otherwise have proven unattainable. In particular, the Crow's Nest Pass agreement and the subsidy payment mechanisms which have arisen to cover associated railway losses have embodied Federal economic development policy consistent with the demands faced by Canada at the time of their enactment.

The establishment of the Crow rate coincided with the efforts at that time to populate the Prairie Provinces in order to solidify Canada's position as a sovereign nation on the North American continent. By "capping" freight rates, the "public interest" of Prairie settlement was advanced because farmers now knew they were protected from the previous monopolistic price-setting practices of the railway. Although some still felt that rates were too high, the Western farmers had been granted one constant in a pursuit plagued by uncertainties.

While stable transportation rates promoted Western expansion and the wheat boom of the early 1900's, in hindsight it seems that they were also remunerative enough to contribute to the overbuilding of the branch line

network. However, this did not become apparent until 1959-61 when the railways first proposed abandonment of branch lines due to losses incurred from providing service at statutory rates. At that time, the MacPherson Commission recommended that CN and CP be subsidized for losses incurred in operations undertaken in the public interest. It was also recommended that abandonments be allowed although this recommendation was overridden by the Federal Government in 1965 when it protected 1839 miles of prairie branch line from abandonment until January 1, 1975.

The reaction of the Federal Government to these recommendations was consistent with a strong and growing belief that the Federal Government could and should regulate certain economic activities to achieve social optima in industries which were monopolistic in structure. This was an era characterized by a belief that government was capable of controlling and fine-tuning the economy through various economic levers and that the redistributive impacts of the subsidy on social welfare were beneficial. The acceptance of this philosophy was embodied in the National Transportation Act (NTA) of 1967 which had as its cornerstone "... that an economic, efficient and adequate transportation system making the best use of all available modes of transportation at the lowest total cost is essential to protect the interests of the users of transportation and to maintain the economic well-being of Canada ...". The NTA also included many of MacPherson's recommendations and established the Canadian Transport Commission which utilized its new powers in conjunction with Sections 252 to 259 of the Railway Act to produce the rail costing order R-6313. This order still forms the basis for rail costing and subsidy purposes although it has

been slightly amended with the passage of the Western Grain Transportation Act (WGTA) in 1983.

Although this was a period of relative prosperity and growth, costs were rising at an accelerating rate and Prairie branch line subsidy payments jumped from \$37M in 1971 to approximately \$275M in 1981 as shown in Table 1.1. As a result, the grain handling and transportation system became the subject of continual study as The Report of the Grain Handling and Transportation Commission (E. Hall), The Commission on the Costs of Transporting Grain by Rail (Snavey), The Prairie Rail Action Committee Report (PRAC) and the 1980 Costs and Revenues Incurred by the Railways in the Transportation of Grain Under the Statutory Rates (Snavey) followed one another in rapid succession. Subsidy payments since 1981 have grown even more dramatically, especially with the adoption of the WGTA in 1983 and this growth has generated additional studies including -Western Grain Transportation - Report on consultations and recommendations (Gilson); The Report of the Committee of Inquiry on Crow Benefit Payment (G. Hall) and Report of the Inquiry into Railway Branch Lines (McDonough). However, since the WGTA subsidizes all grain movements rather than just branch line movements, the subsidy payments post-1983 are not directly comparable to earlier payments. It is clear, nonetheless, that the cost of maintaining subsidized grain movements in the public interest has increased dramatically since 1971.

Table 1.1: Subsidies - Prairie Branch Lines 1971 - 1983 and WGTA 1984 - 1985

	<u>(\$,000)*</u>	<u>% Change</u>	<u>% Change in Marketings**</u>
1971	38,851.5		N/A
1972	42,886.6	10.4	N/A
1973	52,606.7	22.7	N/A
1974	84,558.9	60.7	N/A
1975	99,519.8	17.7	N/A
1976	105,922.0	6.4	20.48
1977	111,558.4	5.3	6.02
1978	143,932.4	29.0	19.15
1979	168,281.1	16.9	(13.77)
1980	225,237.1	33.9	19.59
1981***	274,657.9	21.9	(0.38)
1982	278,604.2	1.4	8.07
1983	310,393.7	11.4	16.71
1984	590,731.4	90.3	(6.85)
1985	496,019.2	(16.0)	

* 1971 to 1981 from Report of the Inquiry into Railway Branch Lines plus subsidies to NAR as of June 1985. 1982-83 from Rail Transport Committee. Since payments continue to be made, these figures might not be exact. 1984 and 1985 data from CTC Annual Reports where the 1984 figure is the sum of WGTA payments in 1984 plus \$955,604 paid in 1985 under section 258 of the Railway Act. The 1985 estimate is just WGTA payments.

** Canada Grains Council, Statistical Handbook 84, Table 12

*** While the "Crow Benefit" was determined to be \$658.6 million for the crop year 1981-82, the full amount was to be phased in starting in the 1983-84 crop year when the WGTA was introduced. Payments in 1981 and 1982 reflect levels derived from Sections 256 and 258 of the Railway Act.

Of course, costs were not entirely responsible for the increasing levels of subsidy payments since volumes shipped (marketings) in the above table also changed over the period. Generally, when volume changes were large, changes in subsidy levels were also large although negative changes in shipments in 1979 and 1981 were still linked with substantial increases in subsidy payments due primarily to the rapid price inflation experienced in those years.

The dramatic increase in payments starting in 1984 was, as mentioned, primarily attributable to the introduction of the WGTA which subsidizes both main and branch line grain and therefore applies to almost twice as much grain as covered in the earlier years. The extension of the subsidy to shipments originating on main lines represented a major shift in Federal policy in that it was the first explicit acceptance by policy makers that the Crow rate was unremunerative even on main lines handling large volumes of grain. While this shift in policy resulted in a large initial increase in the subsidy from Government, it also succeeded in shifting a growing responsibility for future increases to the producer in the hope that, as the onus is shifted, the producer will become increasingly concerned with optimizing his returns through either the promotion of a more efficient transportation network or the production of crops with a smaller transportation component in their final cost. The immediate assumption, by the Federal Government, of the lion's share of the WGTA subsidy also provided the railways with a much needed cash infusion which has allowed them to proceed with system improvements (tunnels, double-tracking, etc.) which should result in adequate capacity and future cost savings due to improved efficiency. However, under the WGTA, Federal commitments, in absolute terms, are not necessarily "capped" and will continue to increase in line with railway costs in general.

The increasing share of the cost of grain transportation which will be borne by producers, and the need of the Federal Government to temper its financial commitments, have accentuated the necessity to rationalize and modernize the grain handling and transportation facilities. This movement towards rationalization is consistent with the current conservative

philosophy prevalent in the U.S. and the U.K. Proponents of this view generally question the ability of government to direct economic activities so as to produce social optima and support legislation which eases regulatory control and places more emphasis on the market to determine the appropriate allocation of resources. The most recent reports related to branch lines; namely, The Report of the Committee of Inquiry on Crow Benefit Payment and Report of the Inquiry into Railway Branch Lines, are both concerned with the inefficiencies and associated costs of the current system and call for alterations in current procedures which would allow the market to operate more freely. Both reports advocate a neo-classical economic approach to achieving efficient resource allocation; namely, give market participants full market information and they, by optimizing their own positions, will ensure global efficiency for the market as a whole and, hence, enhance our international position in an increasingly competitive and dwindling world market.

In recent years, both Russia and China have been successful at reaping much larger harvests and China's agrarian "revolution" holds out the prospect for yet larger harvests and a correspondingly smaller and more competitive international market. Since Canada's major competitors have much lower transportation and handling costs, the key to remaining competitive in the long run appears to rest primarily with decreasing, or at least restraining, the size of the transportation component in the final cost of export grains and the most direct way of accomplishing this goal is to foster the use of the least costly modes of transportation in moving Canadian grain to export markets.

Chapter 2: Canadian Grain in the International and Domestic

Marketplaces

A) International Grain Trade

Data in Appendix I show that wheat and barley represented, respectively, 78% and 20% of Canadian exports of wheat, oats, barley and rye during the periods 1972/73 - 1981/82 and 1982/83. Oats and rye accounted for the other 2% and are unlikely to become important exports in either the near or more distant future. Accordingly, any savings which can be generated through a more efficient transportation infrastructure will impact primarily on wheat and barley exports which, in most markets, compete primarily with American exports.

However, a more efficient transportation system would not likely have a major impact on the volume of Canadian exports since the demand for these products is fairly inelastic. Moreover, the U.S. tends to be the price setter in the international marketplace with prices set in the grain futures markets in Chicago and Kansas City. These prices influence the Canadian Wheat Board which establishes FOB prices for export grains at export terminals. Revenues derived at this world price must cover all marketing and transportation costs as well as costs of production and a return (profit) to the producer. Since the U.S. normally has a substantial carry-over of stocks from one year to the next, any attempt by Canada to increase market share by price cuts would likely be matched by the U.S. Under this scenario, the likely impact would be a marginal change in sales and a more significant decline in revenues.

The above observation would likely hold even in those markets where specialized Canadian spring wheat does not compete directly with other wheats. Accordingly, any savings in transportation costs would tend to be fed back to the producer through the street spread pricing system.

Ultimate growth in grain exports may be limited by the recent growth of the European Community as a grain exporter and rice consumption throughout Asia. Rice substitution may limit the expansion of grain trade although it does not directly enter traditional grain markets as a competitor. While total rice production probably approximates total wheat production, export sales of rice are only about one-tenth as large as wheat sales.

Wheat sales are, however, related to the level of industrialization of potential trading partners. In general, the more industrialized countries have higher income and can afford to pay for the higher protein content which wheat provides. In addition, wheat, when transformed into bread, is much more portable and readily consumed as compared to rice which requires cooking utensils for its preparation. Accordingly, while long term industrialization might help to expand global demand for wheat, the operative words are long term.

In the short term, there is no reason to expect that grain exports will not continue to follow the random pattern displayed over the last decade. In these circumstances, any rationalization of the grain transportation system which generates savings will tend to enhance producer

returns and thereby stabilize the production base. To the extent that rationalization improves the efficiency and reliability of the delivery system, Canada will also be able to satisfy foreign demand in a more timely fashion. In combination, these effects will tend to improve the long term competitiveness of Canadian grain exports.

B) The Importance of Agriculture in the Prairie Economy

The data in Table 2.1 positions Prairie income from statutory grains both within the context of Canadian production of these grains as well as total Prairie and Canadian farm cash income. For the decade 1973-82, Prairie income from statutory grain represented 95.9% of Canadian income from this source. In 1983, this share was only marginally different at 94.8%.

Overall, Prairie farm cash income accounted for just over 50% of total Canadian farm cash income during the entire period 1973-1983. Of this share, 59.3% was due to statutory grains for the period 1973 to 1982. In 1983, this share rose to 64.4%.

In combination, these results show that, for the two periods 1973-1982 and 1983, statutory grains grown in the Prairie provinces accounted for 29.8% and 32.3% of total Canadian farm cash income in the respective time periods.

As a percent of GNP, total Canadian farm cash receipts ranged between 4.8 and 6.1 during the period 1973 to 1983. Table 2.2 provides estimates of the share of GNP attributable to the above-mentioned Prairie Statutory grains.

Table 2.1 - Farm Cash Income From Statutory Grains, Prairie Provinces and Canada, 1973 - 1983
(Millions of Dollars)

	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	Average	1983
Manitoba	241.9	435.0	516.1	447.8	415.5	522.0	628.6	730.7	831.9	878.6	564.9	958.1
Saskatchewan	990.3	1581.1	2028.8	1812.6	1621.4	1846.4	2303.5	2510.4	3237.3	3196.7	2112.9	3213.4
Alberta	391.4	771.6	919.7	844.9	851.5	876.2	1133.5	1328.8	1964.2	1839.6	1092.1	1882.0
Prairies	1623.6	2787.7	3464.6	3105.3	2888.4	3244.6	4065.6	4569.9	6033.4	5914.9	3769.9	6053.5
Canada	1683.1	2905.1	3599.6	3240.9	3035.9	3343.2	4268.4	4801.9	6312.2	6124.6	3931.5	6383.2
Prairies as % of Canada	(96.5)	(96.0)	(96.3)	(95.8)	(95.1)	(97.1)	(95.3)	(95.2)	(95.6)	(96.6)	(95.9)	(94.8)

Total Farm Cash Income, Prairie Provinces and Canada
1973 - 1983

	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	Average	1983
Manitoba	631.1	830.5	942.6	892.4	893.6	1141.0	1326.9	1480.6	1662.7	1697.3	1149.9	1743.5
Saskatchewan	1469.8	2090.5	2511.5	2311.5	2160.9	2507.9	3021.8	3302.5	4009.6	4021.0	2740.7	3960.1
Alberta	1242.1	1744.5	1898.7	1908.7	1961.9	2283.9	2829.9	3143.0	3879.7	3808.6	2470.6	3704.9
Prairies	3343.0	4665.5	5352.8	5112.6	5016.4	5932.8	7178.6	7926.1	9552.0	9526.9	6360.6	9407.5
Canada	7029.8	9039.1	10167.2	10123.5	10190.2	12033.5	14324.7	15883.0	18765.9	18830.7	12638.8	18725.5
Prairie Farm Cash Income as % of Canadian Farm Cash Income	(47.6)	(51.6)	(52.7)	(50.5)	(49.2)	(49.3)	(50.1)	(49.9)	(50.9)	(50.6)	(50.3)	(50.2)
Prairie Income from Statutory Grains as % of Total Prairie Farm Cash Income	(48.6)	(59.8)	(64.7)	(60.7)	(57.6)	(54.7)	(56.6)	(57.7)	(63.2)	(62.1)	(59.3)	(64.4)
Prairie Income from Statutory Grain as % of Total Canadian Farm Cash Income	(23.1)	(30.8)	(34.1)	(30.7)	(28.3)	(27.0)	(28.4)	(28.8)	(32.2)	(31.4)	(29.8)	(32.3)

Source: Canada Grains Council, Statistical Handbook 84, Table 65. Income from Statutory Grains includes: Wheat, Oats, Barley, CWB Payments for Wheat, Oats and Barley, Deferred Grain Receipts, Liquidation of Deferred Grain Receipts, Rye, Flaxseed and Rapeseed, Western Grain Stabilization Payments, Crop Insurance Payments and CWB Net Cash Advance Payments.



Table 2.2 Prairie Statutory Grain Cash Receipts as a Share of
Canadian GNP 1973-1983

<u>Year</u>	<u>%</u>
1973	1.32
1974	1.88
1975	2.08
1976	1.63
1977	1.36
1978	1.40
1979	1.53
1980	1.53
1981	1.77
1982	1.66
1983	1.55

Source: Canada Grains Council, Statistical Handbook 84,
Appendix 5.

While Prairie statutory grain cash receipts ranged between 1.32% and 2.08% of Canadian GNP over the period under consideration, they represented a much larger share of exports of agricultural products as shown in Table 2.3 below.

Table 2.3 Exports of Statutory Grains and Agricultural Products 1973-1983
(Millions of Dollars)

<u>Year</u>	<u>Exports of Statutory Grains¹</u>	<u>Total Agricultural Exports²</u>	<u>Statutory Grains Total Agricultural Exports</u>
1973	1,591	2,900	54.9
1974	2,501	3,731	67.0
1975	2,650	3,828	65.3
1976	2,508	3,802	66.0
1977	2,417	4,027	60.0
1978	2,537	4,513	56.2
1979	2,977	5,623	52.9
1980	4,552	7,372	61.8
1981	6,578	8,411	78.2
1982	6,959	8,936	77.9
1983	7,262	9,210	78.9

(1) Statistics Canada Merchandise Trade Exports - various years

(2) Statistical Handbook 1984 Canada Grains Council, P. 272

Again, due to the volatile nature of the market for agricultural products, the above data display a fairly wide fluctuation in the share of agricultural exports attributable to statutory grains. However, except for the period 1977-1980, the trend appears to be decidedly upwards with statutory grains accounting for 78.9% of total agricultural exports in 1983.

Statutory grain exports also represent a major portion of total Prairie exports as well as a significant share of total Canadian exports as portrayed in Table 2.4 below. Over the period under review, statutory grains represented 47.3% and 6.9% of average Prairie and Canadian exports respectively.

Table 2.4: Prairie and Canadian Exports and Statutory Grains'
Share of Each 1973-1983
 (Millions of Dollars)

<u>Year</u>	<u>Prairie Exports</u>	<u>Statutory Grains† Prairie Exports</u>	<u>Canadian Exports</u>	<u>Statutory Grains† Canadian Exports</u>
1973	2,918	54.5	25,421	6.3
1974	5,466	45.8	32,441	7.7
1975	5,779	45.9	33,103	8.0
1976	5,799	43.3	38,475	6.5
1977	5,940	40.7	44,554	5.4
1978	6,336	40.0	52,842	4.8
1979	8,643	34.4	65,641	4.5
1980	11,094	41.0	75,964	6.0
1981	12,746	51.6	81,337	8.1
1982	12,561	55.4	81,825	8.5
1983	12,591	57.7	88,506	8.2

Source: Statistics Canada Merchandise Trade Exports - various years

However, the cost of earning these export sales is substantial as highlighted in Chapter 1. Large and growing subsidies are required to offset the transportation costs faced by Western producers due to their remote geographic location vis-à-vis world grain markets and to the nature of the grain gathering system. Table 2.5 reproduces the subsidy payment data as well as the value of statutory grain exports over the period under review. As a percent of export earnings, subsidies rose steadily and rapidly to 1979 before dropping back during the subsequent four year period. Over the entire period, subsidy payments averaged 4.36% of the value of export sales and this share can be expected to increase dramatically in 1984 and later years due to the enactment of the WGTA. This almost doubles the level of subsidy payments and, hence, approximately doubles the corresponding share of export sales.

Table 2.5: Subsidy Payments to Canadian Railways for the Carriage of
Statutory Grains in Relation to Export Sales of the
Same Grains 1973-1983 (,000's)

	(1) <u>Subsidy Payments</u>	(2) <u>Statutory Grain Exports</u>	(1)+(2) (%)
1973	52,607	1,590,640	3.3
1974	84,559	2,500,889	3.4
1975	99,520	2,649,618	3.8
1976	105,922	2,508,100	4.2
1977	111,558	2,416,619	4.6
1978	143,932	2,536,963	5.7
1979	168,281	2,976,601	5.7
1980	225,237	4,552,109	5.0
1981	274,658	6,578,395	4.2
1982	278,604	6,959,403	4.0
1983	310,394	7,262,224	4.3

Source: Subsidy Payment data from Rail Transport Committee.

In conclusion, the above analysis serves to reaffirm that:

- 1) Agriculture, although a relatively small contributor to GNP, is an important source of export commodities;
- 2) Agriculture is relatively more important to the Prairie economy than to the Canadian economy as a whole;
- 3) Grains represent a major part of agricultural output and agricultural exports; and
- 4) While branch line subsidies represented only 3% and 6% of the value of export sales of statutory grains over the period 1973-1983, the approximate doubling of payments under the WCTA will

raise this to a more significant range of 6% to 12% in subsequent years.

- 5) To the extent that the transportation network can be rationalized to provide the same output at a lower price to users, grain exports will be able to compete more effectively on world markets. This is especially true if rationalization improves the reliability of grain deliveries at export terminals so that customers can be assured of timely delivery of the required product.



Chapter 3: Railway Costing for Subsidy Purposes

The Western Grain Transportation Act (WGTA) was passed in November 1983 to replace the subsidy mechanism which had operated under the Railway Act. The WGTA provides for the full recovery of volume- and line-related costs and provides for a contribution to constant costs above the long run variable costs incurred in grain transportation. This contribution, applied to volume-related costs, was to be phased in steps of 5 % to a maximum of 20 % from 1983-84 to 1986-87.

Aside from the addition of a phased contribution to constant costs, the costing for subsidy purposes under the WGTA is relatively unchanged from costing under the Railway Act. However, the WGTA subsidization of all grain movement as well as the provision of a contribution to constant costs has transformed grain transportation from a deficit to a profitable operation. Yet the WGTA still provides some incentive to the railways to abandon marginal segments and develop an economic transportation network because it is total estimated eligible costs that are used to adjust the base year rate scale. Accordingly, if one carrier is able to reduce its' costs by "X", the new rate scale will be lower than otherwise by this proportion. If we assume that each railway carries 1/2 of the total volume then each will suffer a relative decline in revenue of 1/2 X and, as a result, net revenues for the cost cutting railway will increase by 1/2 X while those for the other will decrease by 1/2 X.

The WGTA established the crop year 1981-82 as the base year for the determination of subsidy payments for the period up to 1985-86 at which time

a costing review would be completed by the RTC to update the base year data. For the crop year 1981-82, the RTC determined that volume-related variable costs of \$590 M and line-related variable costs of \$104.7 M for grain dependent branch lines were incurred in the transportation of statutory grains.

After adjusting volume-related variable costs upward by 20 % to reflect the 1986-87 level of contribution to common costs and adding line-related variable costs, eligible costs rise to \$812.7 M. Producer payments result in revenues of \$154.1 M which, when subtracted from eligible costs, leaves a short-fall - known as the "Crow Benefit" - equal to \$658.6 M which is to be paid by the Federal Government in the crop year 1986-87. To the extent that inflation results in higher line- and volume-related costs, the Government's commitment will continue to increase. Under the WCTA, if inflationary pressures caused eligible costs to increase by 5 % from 1983-84 to 1984-85, the Government's share would be 2 % and the shipper's share would be 3 % so the nominal increase would be split 40:60 between the Government and shippers respectively. This increase would be put into effect by applying the above ratio (1.05) to the previous year's rate scale to develop a rate scale for the year in question. When multiplied by the tonnages moving over each range of distance this should produce sufficient revenue to cover all eligible costs.

In this context, rail rationalization would reduce eligible costs and, therefore, the level of the Federal Government's financial commitment would stabilize or decline, all other things remaining equal. These reductions in eligible costs would yield savings for producers since rates

would rise at a slower pace than otherwise. Indeed, under certain circumstances, rates could decline substantially. In aggregate, if rail rationalization resulted in the abandonment of 10% of all branch lines, savings of roughly \$10.47 M of line related costs could be realized. Concurrently part of the volume-related costs generated on the branch lines in question could also be avoided.

Another potential source of cost saving would be attributable to economies associated with moving fewer, more heavily loaded grain cars which would result from the closure of certain delivery points and increased loadings at other delivery points located on higher capacity rail segments. To the extent that these economies can be realized through rationalization, the eligible volume-related costs of \$590 M would be expected to decline.

In combination, the above savings, by reducing future eligible costs, could stabilize the future Federal Government financial outlays needed to subsidize statutory grain movements and could produce significant rate decreases for all producers. Under certain circumstances these decreases could be large enough to offset any cost increases associated with the longer road hauls which would be required.



APPENDIX International Grain Trade

Over the decade 1973/74 to 1982/83, Canada Grains Council Statistical Handbook 84 shows that Canadian bulk exports of grain displayed a general upward trend rising from 14.9 million tonnes to 28.3 million tonnes and averaging 20.0 million tonnes. The 1983/84 projection of 29.4 million tonnes contained in this source would represent the highest export level ever attained. While not all grains displayed the same growth on a year-to-year basis, the overall tendency was upward over the time period under review.

The world market in wheat, oats, barley and rye is dominated by five major players; Argentina, Australia, Canada, France and the United States, with Canada and the U.S. controlling the lion's share of the market. Over the decade 1972/73 to 1981/82, average Canadian exports of these grains accounted for 19.5% of all exports while the American share constituted an additional 37.8%. In 1982/83, the Canadian share increased to 21.6% while the American share declined 5.4 points to 32.4% for a combined share of 54.0% of world exports. The following table presents these data.

Table 1: Exports of Wheat and Wheat Flour, Oats, Barley and Rye
from Specified Exporting Countries: Average 1972/73 - 1981/82
and 1982/83 projected in Thousands of Tonnes and Market Shares

	<u>Average 1972/73 - 1981/82</u>		<u>1982/83</u>	
	<u>(,000 tonnes)</u>	<u>%</u>	<u>(,000 tonnes)</u>	<u>%</u>
Argentina	3,560	3.8	7,546	6.0
Australia	10,881	11.6	9,414	7.5
Canada	18,373	19.5	26,988	21.6
France	12,964	13.8	17,924	14.3
U.S.	<u>35,531</u>	<u>37.8</u>	<u>40,541</u>	<u>32.4</u>
Sub-total	81,309	86.5	102,413	81.8
Total-All Exporters	94,114	100.0	124,965	100.0

Source: Canada Grains Council, Statistical Handbook 84, Tables 29, 30, 31 and 32.

It is difficult to discern any real trend in the movement of market shares due to the volatile nature of market demand and supply in the grain trade. A poor crop in one exporting nation often coincides with bumper crops elsewhere although a bountiful harvest can also coincide with an above average harvest in the market of a major importing nation. As a result, while the tendency is for total trade to increase, relatively wide fluctuations in this "tendency" are apparent for both total trade and individual country exports as evidenced in Table 2. The one constant in this table is the dominance of the United States and Canada which, in every year, represented in excess of 50% of the total market.

Wheat and Wheat Flour

Wheat and wheat flour are, by far, the most important grain exports in both Canadian and world trade. Of the 94.1 and 125.0 M tonnes of total grain exports shown in Table 1 above, wheat and wheat flour represented 78.5 and 105.3 M tonnes respectively (see Table 3) for corresponding shares of

83.4% and 84.2% of total grain exports. For the decade 1972/73 to 1981/82, combined Canada/U.S. market share was 61.5% and, although this slipped to 57.9% in the 1982/83 crop year, this should be viewed as a normal fluctuation rather than a tendency towards a decline in market dominance.

Table 3 shows average exports by the five major wheat exporting countries to Canada's nine most important customers for the decade 1972/73 to 1981/82 as well as comparable data for the crop year 1982/83. Canadian and U.S. shares of the markets in question are also displayed. Canadian exports during the periods in question were dominated by the U.S.S.R. and China which accounted for 17.6% and 18.5% of exports in the earlier period and 32.3% and 20.0% of exports, respectively, in the later period. Again, the other major exporter into these countries was the U.S. which in combination with Canada captured 66.9% and 72.0% of the export market in the U.S.S.R. and China respectively in the period 1972/73 to 1981/82. The corresponding figures for 1982/83 were 49.1% and 66.4%.

Table 2: Exports of Wheat and Wheat Flour, Oats, Barley and Rye by Specified Exporting Countries 1972/73 to 1981/82 in '000's of tonnes and Market Shares

	1972/73	1973/74	1974/75	1975/76	1976/77	1977/78	1978/79	1979/80	1980/81	1981/82
Argentina	3,431	1,250	2,286	3,284	5,781	2,876	3,313	4,875	4,102	4,407
Australia	6,545	6,525	10,301	10,227	10,626	12,704	9,920	18,388	12,431	12,142
Canada	19,842	14,508	13,975	16,870	17,325	19,357	17,214	19,608	20,762	24,269
France	11,648	13,797	10,862	12,291	8,920	12,156	11,126	13,302	17,042	18,500
U.S.	33,912	34,420	29,414	32,222	27,413	32,400	32,447	38,531	43,780	50,773
All	75,378	70,500	66,838	74,894	70,065	79,493	74,020	94,704	98,117	110,091
Total	84,606	79,163	75,479	87,484	77,306	95,081	95,542	112,653	115,391	118,444

Market Share

	1972/73	1973/74	1974/75	1975/76	1976/77	1977/78	1978/79	1979/80	1980/81	1981/82
All	89.1	89.1	88.6	85.6	90.6	83.6	77.5	84.1	85.0	93.0
Argentina	4.1	1.6	3.0	3.8	7.5	3.0	3.5	4.3	3.6	3.7
Australia	7.7	8.2	13.7	11.7	13.8	13.4	10.4	16.3	10.8	10.3
Canada	23.5	18.3	18.5	19.3	22.4	20.4	18.0	17.4	18.0	20.5
France	13.8	17.4	14.4	14.1	11.5	12.8	11.7	11.8	14.8	15.6
U.S.	40.1	43.5	39.0	36.8	35.5	34.1	34.0	34.2	37.9	42.9

Source: Canada Grains Council, Statistical Handbook 84, Tables 29, 30, 31 and 32.

Table 3: Average Exports of Wheat and Wheat Flour by Origin/Destination for the Period 1972/73 - 1981/82
(,000's tonnes)

ORIGIN	ITALY	U.K.	POLAND	USSR	ALGERIA	CHINA INC. TAIWAN	JAPAN	BRAZIL	CUBA	OTHER	TOTAL
Argentina	240	-	63	1,124	56	280	15	596	8	1,034	3,416
Australia	17	63	10	1,115	-	1,736	919	-	12	5,074	8,946
Canada	629	1,364	668	2,525	444	2,645	1,384	924	893	2,842	14,318
France	578	706	502	365	276	101	-	46	46	6,835	9,455
U.S.	468	256	480	3,979	587	3,035	3,223	1,792	-	20,113	33,933
Total-Above	1,932	2,389	1,723	9,108	1,363	7,797	5,541	3,358	959	35,898	70,068
Other Origin	627	742	512	623	251	89	118	47	21	5,372	8,402
All Exports	2,559	3,131	2,235	9,731	1,614	7,886	5,659	3,405	980	41,270	78,470

Canadian and U.S. Market Shares (%)

	Canada	U.S.
Canada	24.6	43.6
U.S.	18.3	8.2
	29.9	21.5
	26.0	40.9
	33.5	36.4
	27.1	57.0
	91.1	0
	6.9	18.3
	87.0	43.2

Source: Canada Grains Council, Statistical Handbook 84, Table 29.

Table 3 continued

Exports of Wheat and Wheat Flour by Origin/Destination 1982/83
(,000's tonnes)

DESTINATION	ITALY	U.K.	POLAND	USSR	ALGERIA	CHINA INC. TAIWAN	JAPAN	BRAZIL	CUBA	OTHER	TOTAL
ORIGIN											
Argentina	50	-	-	4,252	-	1,929	-	-	-	1,240	7,471
Australia	-	-	-	1,018	-	1,217	836	-	-	5,425	8,496
Canada	679	1,116	762	6,904	494	4,274	1,370	1,465	1,155	3,152	21,371
France	-	-	1,691	3,423	669	1,447	12	162	343	6,636	14,383
U.S.	453	1	70	3,017	640	4,943	3,296	2,374	-	24,834	39,628
Total-Above	1,182	1,117	2,523	18,614	1,803	13,810	5,514	4,001	1,498	41,287	91,349
Other-Origin	2,018	1,383	940	1,597	497	71	281	1	-	7,176	13,964
All Exports	3,200	2,500	3,463	20,211	2,300	13,881	5,795	4,002	1,498	48,463	105,313
Canadian and U.S. Market Shares (%)											
Canada	21.2	44.6	22.0	34.2	21.5	30.8	23.6	36.6	77.1	6.5	20.3
U.S.	14.2	-	2.0	14.9	27.8	35.6	56.9	59.3	-	51.2	37.6

Oats

The position of Canadian (and American) oats on world markets is much weaker than wheat and although Canada is well represented in some markets, overall, they are only bit players on the world stage.

Of Canadian total grain exports, exports of oats in the periods 1972/73 to 1981/82 and 1982/83 represented only 0.7% and 0.3% respectively. These figures are in keeping with those for total world grain trade where oats is also a minor export comprising only 1.5% and 0.9% of total grain exports in the periods 1972/73 to 1981/82 and 1982/83. The details of world oat exports are contained in Table 4.

Barley

Barley is second behind wheat in terms of total world trade in grains accounting for 14.1% and 14.4% of total grain exports in the two periods under consideration. Table 5 displays the distribution of barley exports to Canada's major markets.

Canada is a much larger force in barley exports than the U.S. accounting for 27.6% and 29.7% of world exports in the two relevant time periods and often in excess of 50% in the specific major markets into which Canada exports. While the U.S.S.R. and Japan were the most important markets in both time periods, "other" markets are considerably different from the previous decade representing 22.3% of Canadian exports - more than double the 9.8% for the earlier period. Whether this is a permanent shift or a

statistical aberration will not be apparent for many years but is likely a product of the volatility associated with the demand and supply of primary products. More important perhaps than the actual distribution of exports is the growth in exports and the consistency of the Canadian share of the world market over the two periods in question.

Rye

Like oats, rye is of minor importance to both world and Canadian grain trade. For the periods under review, exports of rye accounted for only 1.0% and 0.4% of the total volume of grain exports of which Canada provided 30.1% and 37.7% in the respective time periods. Due to the limited importance of this commodity, no further discussion seems required.

Table 4: Average Exports of Oats by Origin/Destination for the Period 1972/73 - 1981/82
(,000's tonnes)

DESTINATION	WEST GERMANY	ITALY	NETHERLANDS	POLAND	USSR	U.S.	OTHER	TOTAL
ORIGIN								
Argentina	7	52	27	12	10	-	36	144
Australia	25	3	3	3	48	-	195	277
Canada	15	13	15	13	27	13	27	123
Sweden	38	2	9	36	43	-	87	215
U.S.	59	19	25	11	10	-	88	212
Total-Above	144	89	79	75	138	13	433	971
Other Origin	129	45	6	2	39	6	254	481
All Exports	273	134	85	77	177	19	687	1,452
Canadian and U.S. Market Shares (%)								
Canada	5.5	9.7	17.7	16.9	15.3	68.4	3.9	8.5
U.S.	21.6	14.2	29.4	14.3	5.7	-	12.8	14.6

Source: Canada Grain Council, Statistical Handbook 84, Table 30.

Table 4 continued

Exports of Oats by Origin/Destination 1982/83
(,000's tonnes)

DESTINATION	WEST GERMANY	ITALY	NETHERLANDS	POLAND	USSR	U.S.	OTHER	TOTAL
ORIGIN								
Argentina	-	2	10	-	25	-	38	75
Australia	-	-	-	-	-	-	83	83
Canada	-	-	3	-	-	57	16	76
Sweden	61	-	58	36	3	42	77	277
U.S.	-	-	-	10	-	-	27	37
Total-Above	61	2	71	46	28	99	241	548
Other Origin	29	98	-	-	22	-	424	573
All Exports	90	100	71	46	50	99	665	1,121

Canadian and U.S. Market Shares (%)

Canada	-	-	4.2	-	-	57.6	2.4	6.8
U.S.	-	-	-	21.7	-	-	4.1	3.3

Table 5: Average Exports of Barley by Origin/Destination for the Period 1972/73 - 1981/82
(,000's tonnes)

DESTINATION ORIGIN	WEST GERMANY		ITALY	POLAND	USSR	ISRAEL	JAPAN	U.S.	OTHER	TOTAL
Australia	80		22	-	233	-	545	4	774	1,658
Canada	118		619	292	758	184	861	200	631	3,663
France	271		152	372	292	6	6	-	2,410	3,509
U.S.	89		81	67	52	4	94	-	865	1,252
Total-Above	558		874	731	1,335	194	1,506	204	4,680	10,082
Other Origin	723		303	238	106	4	24	28	1,790	3,216
All Exports	1,281		1,177	969	1,441	198	1,530	232	6,470	13,298

Canadian and U.S. Market Shares (%)

Canada	9.2	52.6	30.1	52.6	92.9	56.3	86.2	27.6
U.S.	7.0	6.9	6.9	3.6	2.0	6.1	-	9.4

Source: Canada Grain Council, Statistical Handbook 84, Table 31.

Table 5 continued

Exports of Barley by Origin/Destination 1982/83
(,000's tonnes)

DESTINATION ORIGIN	WEST GERMANY	ITALY	POLAND	USSR	ISRAEL	JAPAN	U.S.	OTHER	TOTAL
Australia	-	-	-	-	-	120	-	715	835
Canada	-	310	-	1,593	216	968	127	2,131	5,345
France	-	-	95	383	-	-	-	3,063	3,541
U.S.	-	-	-	-	-	139	-	732	871
Total-Above	-	310	95	1,976	216	1,227	127	6,641	10,592
Other Origin	2,000	1,090	187	21	-	5	238	3,868	7,409
All Exports	2,000	1,400	282	1,997	216	1,232	365	10,509	18,001
Canadian and U.S. Market Shares (%)									
Canada	-	22.1	-	79.8	100.0	78.6	34.8	22.3	29.7
U.S.	-	-	-	-	-	11.3	-	7.0	4.8